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AUTHOR(S):

Mitsunaga, Yasushi

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Positioning of largemouth bass in Lake Biwa, Japan

Yasushi Mitsunaga^{1*}

¹ Department of Fisheries, Kinki University, Nara, Nara 631-8505, Japan

*Email: mittsu@nara.kindai.ac.jp

Abstract

*Lake Biwa is one of the world's few ancient lakes and is Japan's largest freshwater lake. Over 50 species of fish live in the lake including 15 endemic species/subspecies. Largemouth bass (*Micropterus salmoides*) were introduced into the lake in the 1970's and have drastically increased their number at the expense of the native species. Professional fishermen in the lake are making every effort to exterminate the aliens using set nets, gill nets and electric shocker boats. For an efficient catch, positions of largemouth bass were examined using VPS (Vemco Positioning System). Bass were equipped with a coded ultrasonic transmitter with depth and temperature sensors. Receivers installed to construct a polygon calculated the position of bass using the delay of signal detections among receivers. From November to December, as home ranges of bass were narrow and bass stayed in shallow waters, electric shocker should be effective. In January, as core areas were narrow and bass stayed in deep waters, active fishing, such as seiners might be effective. In February, as home ranges were wide and bass moved frequently, passive fishing, such as gill nets seemed to be effective.*